

Winter Track Counts 1977-2005

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Abstract

Winter track count surveys have been conducted in the northern one-third of Wisconsin since the winter of 1977-78. Wildlife managers and researchers documented the tracks of bobcat, coyote, fox, fisher, otter, American marten, gray wolf, snowshoe hares, and weasels. The number of tracks per transect increased for bobcat, coyote, fisher, otter, fox, gray wolf, and snowshoe hares and decreased for American marten and weasels in 2004-05.

Methods

Survey transects were established in 1977 in a block of counties covering the northern one-third of the state. The southern boundary of the Northern Region is formed by and includes Polk, Washburn, Rusk, Taylor, Lincoln, Langlade, and Oconto counties. Nine counties comprising the central forest were added forming the Southern Region (Figure 2) in the winter of 1998-99. These transects were added in an attempt to monitor our expanding forest furbearer population. Two county transects were run for the first time in 2003-04 (Marathon and Portage) and two additional transects were added in 2004-05 (Buffalo and Waupaca). In the Northern Region, two transects were chosen in each county, being at least 10 miles apart and 10 miles long, having good habitat of mixed aspen, alder, and conifers. Generally, large areas of unbroken pine and hardwoods were avoided. Roads that were least likely to be plowed following a snowstorm and with minimal traffic were chosen for transects. In each Southern Region county, only one transect was chosen due to relatively less appropriate area for this survey.

Track count surveys are run once a year on each transect during the early snow period (November - December), before roads become impassable and furbearer movement is restricted (snow depth up to 10-12 inches). Track counts are made on the first day after the conclusion (ending before 6:00 p.m.) of a snowfall, allowing one night for track registry.

Following a snowfall, a driver and qualified observer drive along a selected transect at 8-10 miles per hour looking for tracks in front of and along side of the vehicle. Observers record the number of bobcat, coyote, fox, otter, fisher, gray wolf, and American marten tracks seen along each one-half mile transect section. Data on American martens have been formally collected since the winter of 1989-90 and gray wolves were added in 1997-98. If it is obvious that an animal has run along the road, its tracks are only counted once. Weasels were added to the survey in 2003-04 as a second index of prey availability. Snowshoe hare and weasel tracks are not counted but are recorded as present or absent in the first one-tenth mile segment of each one-half mile transect section. Data are collected by the Northern Wildlife Research Unit, entered into the DNR database, and summarized using the Statistical Analysis System (SAS).

Results

During the winter of 2004-05, 38 transects (34 in the north and 4 in the south) were run. This brings the total number of transects surveyed since 1977 to 848. For the Northern Region, trends in percent presence (number of transects in which tracks of a species occurred) and the number of tracks per transect are shown in Table 1 and Figure 1. The number of tracks per transect for the Southern Region are shown in Table 2 but the sample size (number of transects run) are too small to determine trend information.

Data for the snowshoe hare and weasels reflect the number of one-half mile transect sections containing hare and weasel tracks (Table 1, Figure 1).

Snow conditions for running the survey were good in many parts of the northern region of the state but more marginal in the southern region. Lack of snow caused some transects in the south not to be run. Snow conditions needed to run transects are more difficult to attain in this part of the state. Results from this portion of the state should be viewed cautiously.

Table 1. *Northern Region, number of tracks observed per transect 1977-2005. The number of transects run in a year is in parenthesis.*

Year	Bobcat	Coyote	Fisher	Otter	Fox	American Marten	Gray Wolf	Snowshoe Hare*	Weasel*
1977-78 (28)	0.21	5.88	1.00	0.23	0.70	--	--	9.52	--
1978-79 (32)	0.16	3.61	0.59	0.56	0.34	--	--	7.50	--
1979-80 (35)	0.49	6.49	1.14	0.27	0.37	--	--	7.46	--
1980-81 (34)	0.50	7.38	1.43	0.19	1.10	--	--	6.29	--
1981-82 (24)	0.21	5.29	1.21	0.33	0.81	--	--	3.50	--
1982-83 (25)	0.32	5.66	1.44	0.26	1.10	--	--	1.90	--
1983-84 (20)	0.10	3.05	1.67	0.60	0.45	--	--	0.55	--
1984-85 (33)	0.35	5.88	2.09	0.36	0.83	--	--	1.29	--
1985-86 (21)	0.10	0.76	1.57	0.21	0.05	--	--	2.10	--
1986-87 (34)	0.41	4.00	1.75	0.24	0.84	--	--	1.88	--
1987-88 (29)	0.36	7.31	2.31	0.74	1.10	--	--	3.17	--
1988-89 (30)	0.25	6.35	2.13	0.50	1.90	--	--	3.83	--
1989-90 (36)	0.42	7.39	2.47	0.49	2.64	0.01	--	5.78	--
1990-91 (34)	0.19	4.71	2.60	0.24	1.60	0.06	--	4.06	--
1991-92 (29)	0.10	3.61	3.63	0.55	1.76	0.24	--	4.83	--
1992-93 (31)	0.26	4.09	4.87	0.40	2.23	0.13	--	3.88	--
1993-94 (35)	0.24	5.97	6.61	0.29	2.16	0.26	--	3.79	--
1994-95 (32)	0.28	4.13	6.30	0.56	2.09	0.00	--	3.64	--
1995-96 (32)	0.25	2.06	3.86	0.36	1.73	0.13	--	3.48	--
1996-97 (28)	0.43	2.09	5.27	0.48	1.71	0.11	--	3.20	--
1997-98 (27)	0.43	2.48	2.67	0.35	1.65	0.00	0.22	2.81	--
1998-99 (22)	0.32	4.50	5.86	0.32	2.41	0.14	0.38	6.73	--
1999-2000 (37)	1.05	2.92	4.45	0.59	2.68	0.08	0.35	4.03	--
2000-01 (26)	0.65	2.27	4.58	0.38	2.12	0.12	0.79	4.08	--
2001-02 (21)	0.95	4.38	6.00	0.71	5.24	0.05	1.52	5.49	--
2002-03 (27)	0.78	6.41	5.19	0.30	3.67	0.41	1.11	1.85	--
2003-04 (32)	0.82	3.36	4.46	0.32	1.18	0.29	0.69	3.68	3.81
2004-05 (34)	1.47	4.79	6.12	0.44	3.15	0.24	2.21	4.18	2.97

*Snowshoe hare and weasel tracks were not counted; these columns represent the average number of one-half mile transect sections containing snowshoe hare and weasel tracks.

Table 2. *Southern Region, number of tracks observed per transect 1998-2005. The number of transects run in a year is in parenthesis.*

Year*	Bobcat	Coyote	Fisher	Otter	Fox	American Marten	Gray Wolf	Snowshoe Hare**	Weasel**
1998-99 (3)	0.0	2.67	0.0	0.0	0.33	0.0	0.0	0.0	--
1999-2000 (4)	0.0	4.25	1.5	0.50	3.0	0.0	1.00	1.75	--
2000-01 (3)	0.0	2.67	3.0	0.67	0.33	0.0	0.20	3.67	--
2001-02 (0)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--
2002-03 (0)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--
2003-04 (6)	0.0	5.33	3.33	0.33	2.67	0.0	0.67	1.67	2.00
2004-05 (4)	0.0	6.80	5.60	0.0	2.60	0.0	0.40	1.20	1.20

*Snow conditions in the Southern Region make it difficult to run track transects. Nine transects were established in the southern region in 1998-99 and two new transects were added in 2004-05 but not all have been able to be run.

**Snowshoe hare and weasel tracks were not counted; these columns represent the average number of one-half mile transect sections containing snowshoe hare and weasel tracks.

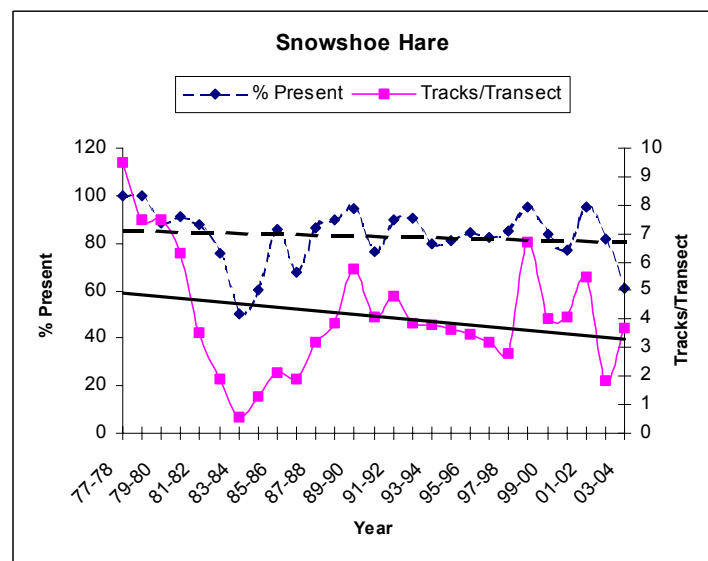
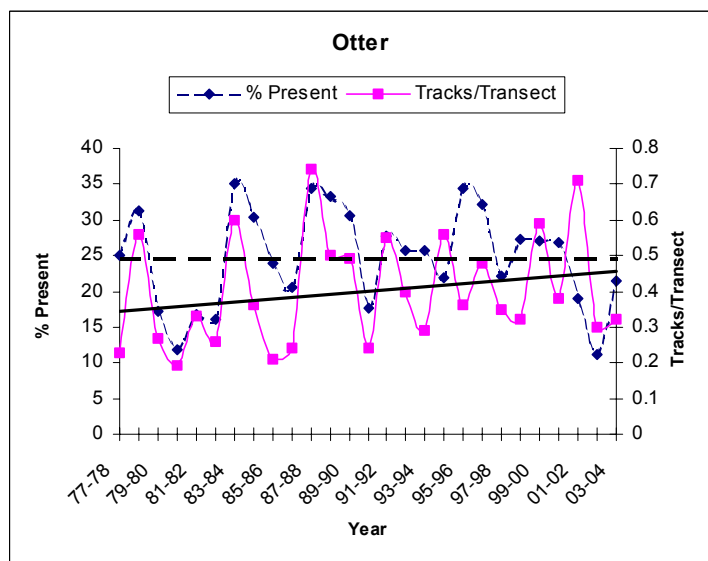
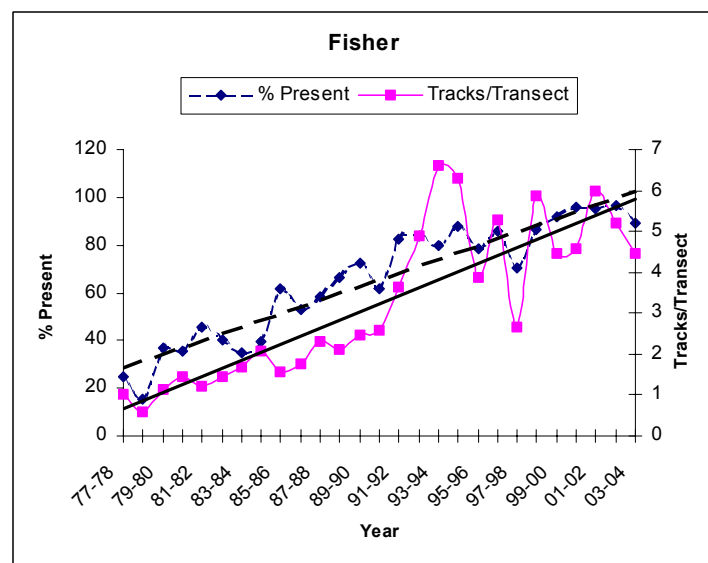
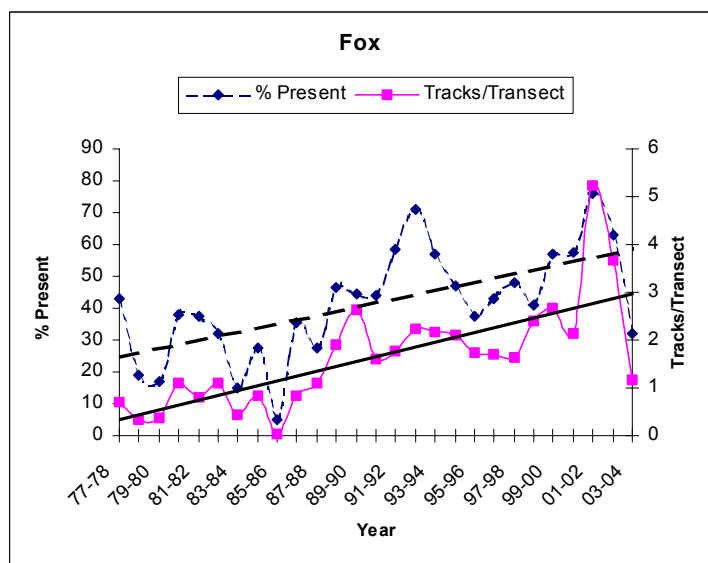
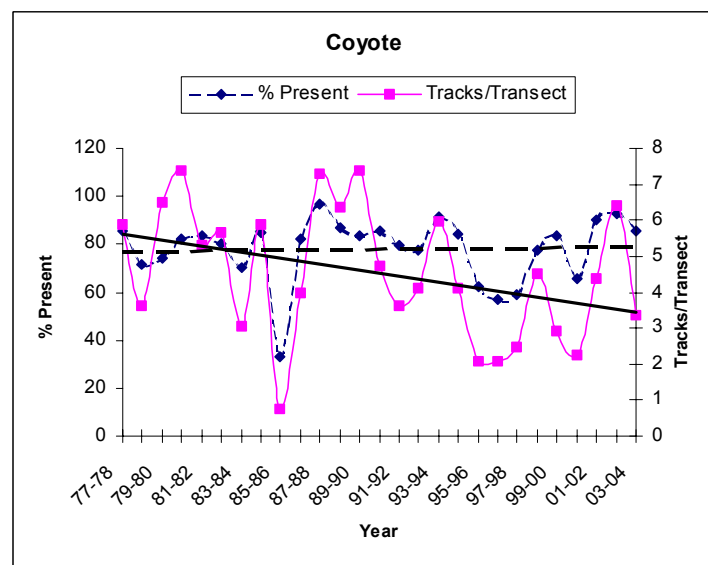
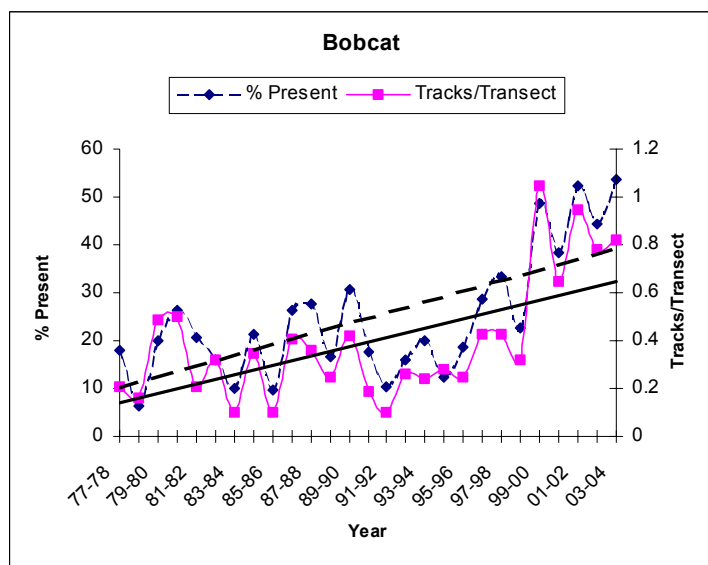


Figure 1. Winter track count trends for each species surveyed in the Northern Region 1977-2005.

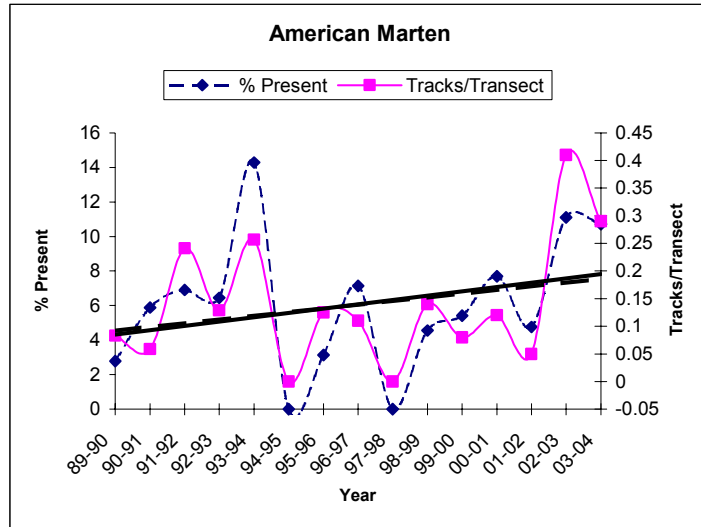


Figure 1. Continued.

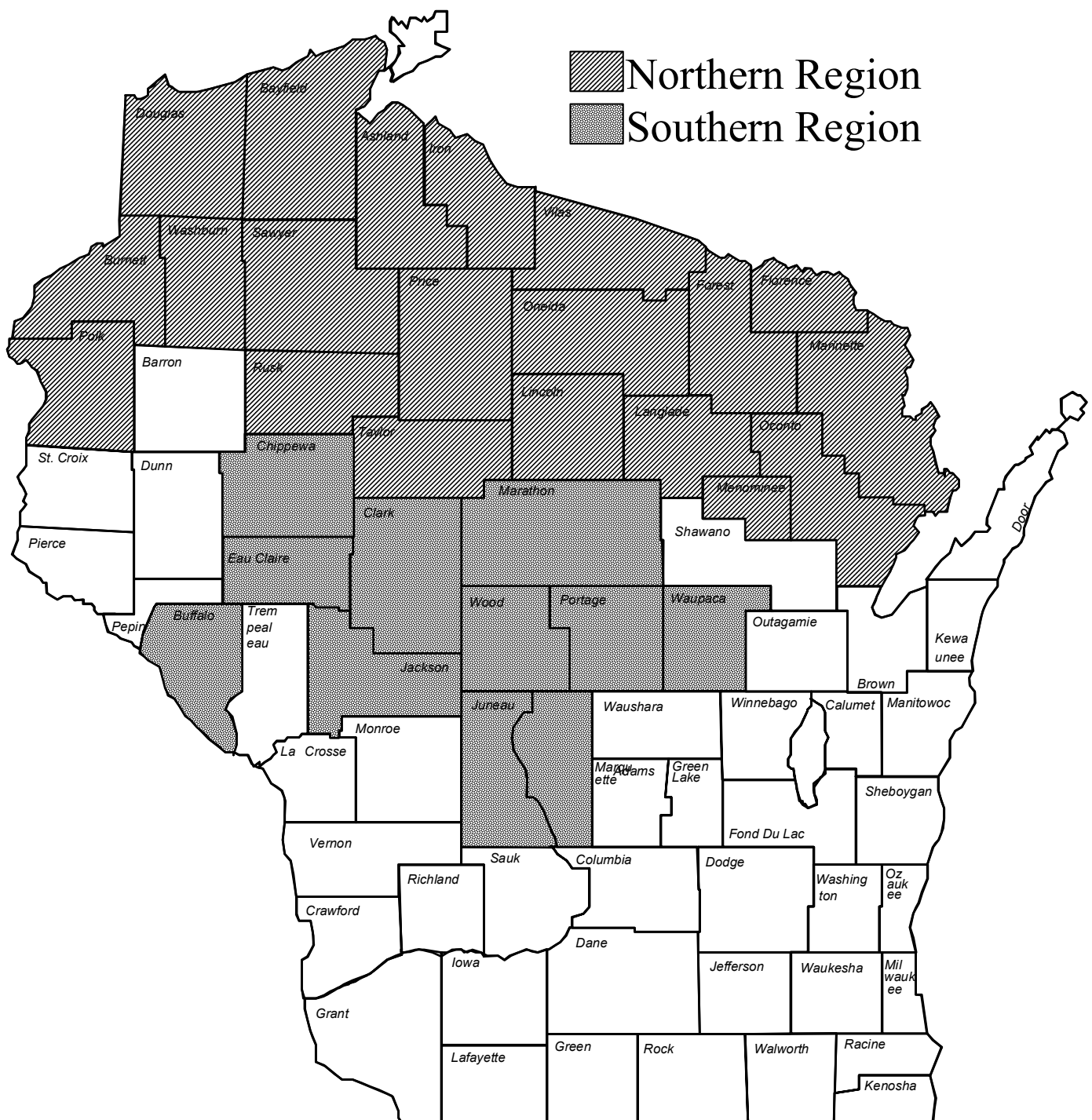


Figure 2. *Shaded counties contain track count transects.*